

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.

Application Serial Number: 10/734,719
Source: IFWO
Date Processed by STIC: 4/14/2006

ENTERED



IFWO

RAW SEQUENCE LISTING

DATE: 04/14/2006

PATENT APPLICATION: US/10/734,719

TIME: 11:05:00

Input Set : N:\Crf3\RULE60\10734719.raw.txt

Output Set: N:\CRF4\04132006\J734719.raw

```

3 <110> APPLICANT: Gilbert, Michel
4     Wakarchuk, Warren W.
5     National Research Council of Canada
7 <120> TITLE OF INVENTION: Campylobacter Glycosyltransferases for Biosynthesis of
8     Gangliosides and Ganglioside Mimics
10 <130> FILE REFERENCE: 019633-000111US
12 <140> CURRENT APPLICATION NUMBER: US 10/734,719
13 <141> CURRENT FILING DATE: 2003-12-11
15 <150> PRIOR APPLICATION NUMBER: US 09/816,028
16 <151> PRIOR FILING DATE: 2001-03-21
18 <150> PRIOR APPLICATION NUMBER: US 60/118,213
19 <151> PRIOR FILING DATE: 1999-02-01
21 <150> PRIOR APPLICATION NUMBER: US 09/495,406
22 <151> PRIOR FILING DATE: 2000-01-31
24 <160> NUMBER OF SEQ ID NOS: 49
26 <170> SOFTWARE: PatentIn Ver. 2.1
28 <210> SEQ ID NO: 1
29 <211> LENGTH: 11474
30 <212> TYPE: DNA
31 <213> ORGANISM: Campylobacter jejuni
33 <220> FEATURE:
34 <223> OTHER INFORMATION: 11.5 kb PCR product from C. jejuni OH4384
35     including LOS biosynthesis locus
37 <400> SEQUENCE: 1
38 aaagaatacgc aatttgctaa agagggtttta aatcttagtg gtattgatga aacacatata 60
39 gaattagcgc caaaatttaa tcttgaagag ctaatggcct ttacaaaaat gatggatcct 120
40 atcataggaa atgatagcgc tccaacacat ttagcttttg ctttaaataa agcatctatt 180
41 acgatttttg gtgcaacacc aagctaccgc aatgcttttc aaactcatat caataaaatc 240
42 attgatacag gtaaaaaaat ccaaaatgcc aagcatatcg ataaaagtga tttttgtatc 300
43 acgcgtatag aagaagaaga tatcttcaaa ctgccaag gcttacttaa tgaaaaatag 360
44 tgatagaata tatcttagtc tttattatat ttgaaattt tttgttactt ttatgcctga 420
45 ttgtatcttg catttttttag ctttgattgt agcaagaatc gcttttcac ttaacaaaaa 480
46 acaccgcaaa atcatcaata caaatttgca aatctgttt cctcaataca ctcaaaaaaga 540
47 acgcgataaa ttgtctttta aaattttatga aaattttgct caatttggga ttgattgttt 600
48 gcaaaatcaa aacaccacca aagaaaaaat tctcaataaa gtaaatttca tcaatgaaaa 660
49 ttttcttata gatgcccttg ctttaaagcg tcctattatc ttcacaaactg cacactatgg 720
50 aaactgggaa attttaagcc ttgcttatgc ggctaaatat ggtgcgattt ccatagtggg 780
51 aaaaaagtta aaaagtgaag ttatgtatga aattttaagc caaagtcgca cccaatttga 840
52 catagaactt attgacaaaa aaggcggtat aagacaaatg ctaagtgtc taaaaaagga 900
53 gagagctttg ggaattttta ctgatcaaga ctgcgtagaa aacgaaagcg taagattaaa 960
54 attttttaac aaagaagtga attatcaaat gggagcaagc cttatcgcac aaagaagcaa 1020
55 tgctttgatc atccctgttt atgcctataa agaaggtggt aaattttgca tagagttttt 1080
56 taaagcaaaa gattctcaaa atgcaagttt agaagaactg acactttatc aagcaciaag 1140

```

RAW SEQUENCE LISTING

DATE: 04/14/2006

PATENT APPLICATION: US/10/734,719

TIME: 11:05:00

Input Set : N:\Cr3\RULE60\10734719.raw.txt

Output Set: N:\CRF4\04132006\J734719.raw

```
57 ttgcgaagaa atgattaaaa aaagaccttg ggaatacttt ttttttcata gacgctttgc 1200
58 tagttataat gaggaaattht acaagggtgc aaaatgaatc taaaacaaat aagcgttatt 1260
59 atcatcgtaa aaaatgctga gcaaaccttg cttgagtggt taaattcttt aaaagatttt 1320
60 gatgaaatta ttttacttaa caatgaaagt agcgataata ccctaaaaat agctaataaa 1380
61 tttaaaaaag attttgctaa tttatatatt tatcacaatg cttttatagg ttttggagct 1440
62 ttaaaaaatc ttgctttaag ttatgcaaaa aatgattgga ttttaagcat tgatgctgat 1500
63 gaagtgcctg aaaatgagtg tattaagagag cttaaaaatt taaaacttca agaagataat 1560
64 atcatcgcac ttagccgtaa aaatctctat aaaggcgaat ggataaaggc atgtggttg 1620
65 tggcctgatt atgttttgag aatttttaaa aaaaatttca ctcgttttta tgataattta 1680
66 gtacatgaaa gccttgthtt gccaaagtaa gctaaaaaaa tttatcttaa aaatggattg 1740
67 aagcattatt cttataagga tatctctcac ttaattgaca aaatgcagta ctactcaagt 1800
68 ctttgggcaa aacaaaatat acacaaaaaa agtgggtggt taaaagcaaa tttaaagact 1860
69 ttttggactt ttttagaaa tttttttta aaaaatggct ttttatatgg ttataagggt 1920
70 tttataatta gcgthttgtc tgcattggga acatttttta aatatatgaa attatatgaa 1980
71 cttcaaagac aaaaaccaaa aacttgcgct ttaataataa taacttataa tcaaaaagaa 2040
72 cgctttaaag tagtgcttga tagtgthaaa aatctagcct ttttaccata tgaagthtta 2100
73 atcgagatg atggtagcaa agaagataca gcaaggctta ttgaagaata tcaaaaagat 2160
74 tttccttgct ctttaaaaca catttggaag gaagatgaag ggtthaaact tagtaaaagt 2220
75 cgcaacaaaa ctataaaaaa cgtgatagt gaatatataa tagthttga tgggtgatag 2280
76 attttggaaa aagatttcat aaaaagaacat ttagaatttg cacaagaaa gctthtttta 2340
77 caaggthcaa gagtaatttt aaataaaaaa gaaagcgaag aaattthaaa caaagatgat 2400
78 tatcgcataa tttttaataa aaaagatttt aaaagthcta aaaattcttt ttttagctaaa 2460
79 atattttaca gtctttcaaa aaaaagatga aaaaatcttt taaaaaacca ctcttattaa 2520
80 aggtattagg ggttgcaata tgagthtttt taaaactgat tttgatgaac ttgatggttt 2580
81 taatgaaaat tttattggtt ggggtagaga agatagtgaa tttgttgcta gattthttatt 2640
82 taataaaggc attttttagac gattaaaatt taaagctatt gcttatcata tttatcacia 2700
83 agaaaatagc aaaaaaatgc ttgaaagcaa tcatcaaatt tatttagata ccatcaaaaa 2760
84 taaaagatt tcttgagat aaaacatgaa gaaaatagg gtatgtatac caatctataa 2820
85 tgtagaaaaa tatttaagag aatgthtga tagcgthtc aatcaaaact atactaaact 2880
86 agaaatcata cttgtcaatg atggtagcac agatgaacac tcaactcaata ttgcaaaaaga 2940
87 atatacctta aaagataaaa gaataactct ttttgataag aaaaatgggg gthtaagtht 3000
88 agctagaaat ataggatatag aatactthtag cggggaatat aaattaaaaa acaaaactca 3060
89 acatataaaa gaaaattctt taatagaatt tcaattggat ggtaataatc cttataatat 3120
90 atataaagca tataaaagct ctcaagcttt taataatgaa aaagattthaa ccaattttac 3180
91 ttaccctagt atagattata ttatattctt agatagtgat aattattgga aactaaactg 3240
92 catagaagaa tgcgttataa gaatgaaaaa tgtggatgta ttgtggttg accatgattg 3300
93 cacctatgaa gacaatataa aaaataagca caaaaaaaca aggatggaaa tttttgattt 3360
94 taaaaaagaa tgtataatca ctccaaaaga atatgcaaat cgagcattaa gtgtaggatc 3420
95 tagagatatt tcttttggtt ggaatggaat gattgatttt aattthttta agcaaatthaa 3480
96 acttaaatth ataaatttht ttatcaatga agatatacac tttgggataa ttttgthtgc 3540
97 tagtgctaat aaaattthtg ttttatcaca aaagthtgat ttgtgtcgt taagagcaaa 3600
98 cagtatatca aatcatgata agaagattac aaaagcaaat gtgtcagagt atthtaaaaga 3660
99 tatatatgaa actthcgggg aaaacgctaa ggaagcaaaa aattattthaa aagcagcaag 3720
100 cagggtthta actgctthta aattgataga atththtaaa gatcaaaaaa acgaaaatgc 3780
101 acttgctata aaagaaacat ttttaccttg ctatgcaaaa aaagctthta tgattaaaaa 3840
102 atthtaaaaa gatcctthta atthaaagga acaattagth ttaattaaac cthttattca 3900
103 aacaaaactt cctthgata tttggaaatt ttggcaaaaa ataaaaaata tthtaataa 3960
104 aaaatataaa aaattaatta atththtaggt ataactacta taattatagg agaaaatatt 4020
105 ttatatgcta tthcaatcat actthtgtaa aataattthg ttattcatcc cthtttagaaa 4080
```

RAW SEQUENCE LISTING

DATE: 04/14/2006

PATENT APPLICATION: US/10/734,719

TIME: 11:05:00

Input Set : N:\Crif3\RULE60\10734719.raw.txt

Output Set: N:\CRF4\04132006\J734719.raw

```

106 aattagacat aaaataaaaa aaacattttt actaaaaaac atacaacgag ataaaatcga 4140
107 ttcttattta ccaaaaaaaaa ctcttggtgca aattaataaa tacaacaatg aagatttaaat 4200
108 taaacttaat aaagctatta taggggaggg gcataaagga tattttaatt atgatgaaaa 4260
109 atctaaagat ccaaaatctc ctttgaatcc ttgggctttt atacgagtaa aaaatgaagc 4320
110 tattacctta aaagcttctc ttgaaagcat attgcctgct atccaaagag gtgttatagg 4380
111 atataatgat tgtaccgatg gaagtgaaga aataattcta gaattttgca aacaatatcc 4440
112 ttcattttata ccaataaaat atccttatga aattcaaatt caaaacccaa aatcagaaga 4500
113 aaataaaactc tatagctatt ataattatgt tgcaagtttt ataccaaaag atgagtggct 4560
114 tataaaaaata gatgtggatc atatctatga tgctaaaaaa ctttataaaa gcttctatat 4620
115 accaaaaaac aaatatgatg tagttagtta ttcaagggtt gatattcact attttaatga 4680
116 taattttttt ctttgtaaag ataataatgg caatatattg aaagaaccag gagattgctt 4740
117 gcttatcaat aattataact taaaatggaa agaagtatta attgacagaa tcaataacaa 4800
118 ttggaaaaaa gcaacaaaac aaagtttttt ttcaaatata cactctttag agcaattaaa 4860
119 gtataaacac aggtatattat ttcacactga attaaataat tatcattttc cttttttaa 4920
120 aaaaacataga gctcaagata ttataaaata taattggata agtattgaag aatttaaaaa 4980
121 attctatttta caaaatatta atcataaaat agaaccttct atgatttcaa aagaaactct 5040
122 aaaaaaaata ttcttaacat tgttttaaaa attttttata tttaaataaa atttttaag 5100
123 ttaaaatatt tatttttagct aataatgtaa ccattaattt tgttctttt attttatata 5160
124 tttgaatata tagcaataa taattagca catagagaac gctacaatac ttgtttaaa 5220
125 tataattttg ctttaaatag tttaaaacca actgcaactc ttgaatatta tttttaacaa 5280
126 gcacttcatt cttagtatta caaattgaat tattattagg cacgtaatga tataaattac 5340
127 agttcatata tgctattttt tgagcttgac ttaacattgg ataataaac aatacatctt 5400
128 cagccatatt gattttaaca tctttctcga gtcttaaaact cgaaaagct tctaaataca 5460
129 atttctttct tataagtttc cccacatag tccaatataa atttttctt gcaataattt 5520
130 tttttacaaa ctcttttttg ctataaaaac cagaattaaa gtcaaaactt ttatatgaaa 5580
131 taacattact ttcaacaata gcattgaaaa acactaaatc aacttcatcc tgttcatcta 5640
132 aaatttttat acactcttca caagcattta gttccaaata atcatcagga tctaaaaaca 5700
133 ttatataagg agagtttgct actttcacac cttcatatct tgctcttaa agacctaat 5760
134 ttttttcatt gtggattatt tttattcttt tgccttttt agagtattct ttggctatat 5820
135 ttatactatt atcatttcca caatcatcaa ctacaattat ttctatatct ttaaaagtct 5880
136 gattgatata gctttctatt gcccttgcta tatattgttc cacattataa gttggtaaga 5940
137 tgattgaaat tttaaacata tttattcctt attttattat aatttaatta taacataaaa 6000
138 tctattttga taaaatcggt aaaaataaat cttgatggaa aataatcatg aaaaaagtta 6060
139 ttattgctgg aaatggacca agtttaaaag aaattgatta ttcaagacta ccaaatgatt 6120
140 ttgatgtatt tagatgtaat caattttatt ttgaagataa atactatctt ggtaaaaaat 6180
141 gcaaggcagt attttacaat cctattcttt tttttgaaca atactacact ttaaaacatt 6240
142 taatccaaaa tcaagaatat gagaccgaac taattatgtg ttctaattac aaccaagctc 6300
143 atctagaaaa tgaaaatttt gtaaaaactt ttacgatta ttttctgat gtcattttg 6360
144 gatatgatatt tttcaaacaa cttaaagatt ttaatgctta ttttaaattt caggaaattt 6420
145 atttcaatca aagaattacc tcaggggtct atatgtgtgc agtagccata gccctaggat 6480
146 acaaagaaat ttatctttcg ggaattgatt tttatcaaaa tgggtcatct tatgcttttg 6540
147 atactaaaca aaaaaatctt ttaaaattgg ctccataatt taaaaatgat aattcacact 6600
148 atatcggaac tagtaaaaat acagatataa aagctttaga atttctagaa aaaacttaca 6660
149 aaataaaact atattgctta tgccttaaca gtcttttagc aaattttata gaactagcgc 6720
150 caaatttaaa ttcaaatttt atcatacaag aaaaaataa ctacactaaa gatatactca 6780
151 taccttctag tgaggcttat ggaaaatttt caaaaaatat taatttttaa aaaataaaaa 6840
152 ttaaagaaaa tattttattac aagttgataa aagatctatt aagattacct agtgatataa 6900
153 agcattattt caaaggaaaa taaatgaaag aaataaaaat acaaaatata atcataagtg 6960
154 aagaaaaagc acccttagtc gtgcctgaaa taggcattaa tcataatggc agtttagaac 7020

```

RAW SEQUENCE LISTING

DATE: 04/14/2006

PATENT APPLICATION: US/10/734,719

TIME: 11:05:00

Input Set : N:\Crf3\RULE60\10734719.raw.txt

Output Set: N:\CRF4\04132006\J734719.raw

```

155 tagctaaaat tatggtagat gcagccttta gcacagggtgc taagattata aagcatcaaa 7080
156 cccacatcgt tgaagatgag atgagtaagg ccgctaaaaa agtaattcct ggtaatgcaa 7140
157 aaataagcat ttatgagatt atgcaaaaaat gtgcttttaga ttataaagat gagctagcac 7200
158 ttaaagaata cacagaaaaa ttaggtccttg tttatccttag cacacctttt tctcgtgcag 7260
159 gtgcaaaccg cttagaagat atgggaggtta gtgcttttaa gattgggttca ggtgagtgta 7320
160 ataattatcc gcttattaaa cacatagcag cctttaaaaa gcctatgata gttagcacag 7380
161 ggatgaatag tattgaaagt ataaaaacca ctgtaaaaat cttattagac aatgaaattc 7440
162 cctttgtttt aatgcacaca accaatcttt acccaacccc gcataatctt gtaagattaa 7500
163 acgctatgct tgaattaaaa aaagaatttt cttgtatggt aggccttaagc gaccacacaa 7560
164 cagataatct tgcgtgttta ggtgcggttg cacttggtgc ttgtgtgctt gaaagacatt 7620
165 ttactgatag tatgcataga agtggccctg atatagtttg ttctatggat acacaggctt 7680
166 taaaagagct tattatacaa agtgagcaaa tggctataat gagaggaaat aatgaaagta 7740
167 aaaaagcagc taagcaagag caagtcacaa ttgatttttg ctttgcaagc gtagtgcagca 7800
168 ttaaagatat taaaaaaggc gaagttttat ctatggataa ttttgggtt aaaaagacctg 7860
169 gacttggtgg aattagtgcg gctgaatttg aaaatatttt aggcaaaaaa gcattaagag 7920
170 atatagaaaa tgatactcag ttaagctatg aggattttgc gtgaaaaaaa tcctttttat 7980
171 aacaggcact agggctgatt attctaagat taaatcttta atgtacaggg tgcaaaaactc 8040
172 aagcgaattt gaactttaca tctttgcaac aggaatgcac ttaagcaaaa attttggcta 8100
173 tacagttaaa gaactttata aaaatggctt taaaaatatt tatgaattta taaattacga 8160
174 taaatatttt tcaaccgata aggcctttagc cactacaatt gatggatttt caagatatgt 8220
175 aaatgagcta aaacctgatt taatcgtagt acatggagat agaatcgagc ctttagcagc 8280
176 agctattggt ggagcattaa acaatatctt agtagcacat attgaagggtg gagagatttc 8340
177 aggaactatt gatgatagct tacgccacgc tatatcaaaa ctagcacata ttcatttagt 8400
178 aaatgatgag tttgcaaaaa ggcgtttaat gcagcttgga gaagatgaaa aatctatttt 8460
179 tatcataggt tcgcctgatt tagaactttt aaacgataat aaaatttcac ttaatgaagc 8520
180 aaaaaaatat tatgatataa attatgaaaa ctacgctttg cttatgtttc atcctgttac 8580
181 aactgaaatt acaagcatta aaaatcaagc agataattta gtaaaagcac tgatacaaa 8640
182 taacaaaaat tatattgtta tttatccaaa taatgattta ggttttgaat taatcttgca 8700
183 aagctatgaa gaacttaaaa ataaccctag atttaagctt tttccatcgc ttagatttga 8760
184 gtattttata actttgttaa aaaatgctga ttttataata ggtaattcaa gttgtatttt 8820
185 aaaaagaggcc ttatacttaa aaacagcagg aatttttagt ggctcaaggc aaaatggaag 8880
186 acttggaat gaaaatacac taaaagttaa tgcaaatagt gatgaaatac taaaagctat 8940
187 taataccatt cataaaaaaac aagatttatt tagcgccaag ttagagattt tagatagctc 9000
188 aaaattattt tttgaatatt tacaaaagcg agaatttttt aaacttaaca cacaaaaagt 9060
189 ttttaaggat ataaaaatgag cttagcaata atccctgctc gtggtggctc aaagggtatt 9120
190 aaaaataaaa atttggtttt attaaacaat aaacctttta tttattacac cattaaagct 9180
191 gcactaaata ctaaaagcat tagtaaaagt gttgtaagca gtgatagtga tgaaatttta 9240
192 aattatgcaa aaagtcaaaa tgttgatatt ttaaaacgcc caattagcct tgcacaagat 9300
193 aatactacaa gcgataaagt gctttttacat gctctaaaat tttacaaaga ttatgaagat 9360
194 gtagtttttt tacaacccac ttcgccgcta agaacaaata ttcattatga tgaggctttt 9420
195 aatctttata aaaatagcaa tgcaaatgcc ctaattagcg taagcgaatg tgataataaa 9480
196 attctaaaag cctttgtttg taatgaatat ggcgatttag cagggtattg taatgatgaa 9540
197 tatcctttta tgccaaggca aaaattgcct aaacatata tgagcaatgg tgcaatttat 9600
198 attttaaaga taaaagaatt tttaaacaat cctagctttt tacaaagcaa aaccaagcat 9660
199 tttttaatgg atgaaagctc aagtttagat attgactgtt tggaggattt aaaaaaggct 9720
200 gaacagatat ggaaaaaata accttaaaat gcaataaaaa tatattaaat ttattaaagc 9780
201 aataataatat ttatacaaaa acttatatag aaaatcctag aagattttca agactaaaaa 9840
202 ccaaagattt tataaccttt ccattggaaa acaatcaact agagagtgtg gcggggctgg 9900
203 ggatagaaga atattgtgct tttaaattta gcaatatctt acatgaaatg gattcatttt 9960

```

RAW SEQUENCE LISTING

DATE: 04/14/2006

PATENT APPLICATION: US/10/734,719

TIME: 11:05:00

Input Set : N:\Crif3\RULE60\10734719.raw.txt

Output Set: N:\CRF4\04132006\J734719.raw

```

204 ctttttagcgg atcttttcta cctcattata caaaagttgg aaggtattgt tcaatttctg 10020
205 atgggggtttc tatgtttaac tttcaacatc ctatggatag aatcagcact gcaagtttta 10080
206 cctatgaaac aaatcatagt tttattaacg atgcttgcca aaatcacatc aacaaaacat 10140
207 ttcctatagt taaccataat ccaagctcat caataacgca ttttaattata caagatgatg 10200
208 tttggatagg aaaagatggt ttgcttaaagc aggggtatcac acttggggact ggatgtgtca 10260
209 taggacaaaag agctgtagtt actaaagatg taccacctta tgctatagtt gcaggaattc 10320
210 cagccaaaat tatcaaatat agatttgatg aaaaaacaat agaaagatta ttaaaaattc 10380
211 aatgggtggaa atatcatttt gctgattttt atgatattga tcttaattta aaaataaacc 10440
212 aatatcttga cctactagaa gaaaaaatca taaaaaaatc aatttcctac tataatccaa 10500
213 ataaacttta ttttagagat atttttagaac taaaatcaaa aaaaattttt aatctatttt 10560
214 aatctatttt tcacccctgc ttccctctctc tttaaaactt caaataattt ctgatgaaat 10620
215 tcatcatgtg caaactcttt ggatagtttt tttatgattt cattactttt ctttttatca 10680
216 tgataatttt gatttaaaat ttcttttatt ttattctcat atcttccatt tggattaaat 10740
217 tcataatgat aaatgcaagt tttaaaaaca gctattttct cacaaaacat aaaataaata 10800
218 taacaaaaaa gcacatcttc gccataattc aaacgctcat ctattttaat tttttcaaaa 10860
219 ctttttaaga tgatatcttt tttaaagcac ttgcgccaaa ccgaccagca aaaatgcctt 10920
220 tgtttgctta aaaattctaa aaattccttt tgattaaaaa cttcatcttg tttaaaacga 10980
221 taaaattggt tgggtttttac cctatgcaca aaggcatcaa aacaaagcaa atcaaaacct 11040
222 tttttcatct cttttgacgc tatttcacaa gcacaggtg ttaaaaaatc atcactatct 11100
223 aaaaacatta taaaatcaga actagaatgc aaaaccccca aatttctact tgcaaaagtg 11160
224 cctaaatttt cttcattttg aaagattttt attcttggat ctttttttgc aaattctaaa 11220
225 accatattta aactattatc tttactttta tcatcgataa tcaaaatttc aatatctttt 11280
226 aaagtctgat ttatacaact ttgcaaagct cttgagataa aatcgcaaga attaaaaagc 11340
227 gggattatga tagaaagttg tggcatattt ttccataaatt ttgttaaaat aataaaaaaca 11400
228 attctatcaa agtttaggaa atttatgaaa atttttatata accttccaac ctgggttaggc 11460
229 gatacggtaa tggc 11474
232 <210> SEQ ID NO: 2
233 <211> LENGTH: 876
234 <212> TYPE: DNA
235 <213> ORGANISM: Campylobacter jejuni
237 <220> FEATURE:
238 <221> NAME/KEY: CDS
239 <222> LOCATION: (1)..(876)
240 <223> OTHER INFORMATION: bifunctional alpha-2,3/alpha 2,8-sialyltransferase
241 Campylobacter sialyltransferase II (cstII) from C. jejuni
242 strain OH4384 (ORF 7a of lipooligosaccharide (LOS)
243 biosynthesis locus)
245 <400> SEQUENCE: 2
246 atg aaa aaa gtt att att gct gga aat gga cca agt tta aaa gaa att 48
247 Met Lys Lys Val Ile Ile Ala Gly Asn Gly Pro Ser Leu Lys Glu Ile
248 1 5 10 15
250 gat tat tca aga cta cca aat gat ttt gat gta ttt aga tgt aat caa 96
251 Asp Tyr Ser Arg Leu Pro Asn Asp Phe Asp Val Phe Arg Cys Asn Gln
252 20 25 30
254 ttt tat ttt gaa gat aaa tac tat ctt ggt aaa aaa tgc aag gca gta 144
255 Phe Tyr Phe Glu Asp Lys Tyr Tyr Leu Gly Lys Lys Cys Lys Ala Val
256 35 40 45
258 ttt tac aat cct att ctt ttt ttt gaa caa tac tac act tta aaa cat 192
259 Phe Tyr Asn Pro Ile Leu Phe Phe Glu Gln Tyr Tyr Thr Leu Lys His

```

VERIFICATION SUMMARY

DATE: 04/14/2006

PATENT APPLICATION: US/10/734,719

TIME: 11:05:01

Input Set : N:\Crf3\RULE60\10734719.raw.txt

Output Set: N:\CRF4\04132006\J734719.raw